TVA Board: Energy Efficiency and
Demand Response Listening Session
Tuesday, March 4, 2008
Knoxville, TN

Remarks by Elliot Boardman, Executive Director, Peak Load Management Alliance

- Good afternoon. My name is Elliot Boardman, and I am the Executive Director of the Peak Load Management Alliance. The PLMA is an association of leading energy professionals dedicated to promoting consumer participation in electricity markets using load management.
- I want to thank TVA for the opportunity to speak at today's Session.
- I applaud TVA's goal of achieving a leadership position in energy efficiency and peak reduction, and the care TVA is taking to solicit the input of customers and those with experience in these areas.
- TVA is in a unique position to work with Distributors to help customers gain significant benefits from energy efficiency and peak load reduction, by learning from what has worked elsewhere.
- While the PLMA strongly believes in the benefits of both energy efficiency and peak reduction, I will focus my remarks on peak reduction.
- To make clear what I am discussing, I will first define what I mean by peak reduction and how PLMA members help deliver it.
- As requested by TVA, I will then offer some input to TVA's long term plan to make peak reduction happen in the Valley Region.

- Peak reduction, also known as demand response, is when a utility works with its customers to reduce their use of electricity at those times when it is most in demand.
    - As you know, electricity cannot be stored for use at a later time.
    - So utilities must have the generating, transmission and distribution infrastructure to meet demand at its peak, even if that peak is much higher than the average use.
    - In fact, it is not unusual to find that 10% of a utility's infrastructure costs are spent to meet peak demand that occurs less than 1% of the time.
    - If a utility can reduce its peak demand through demand response, it can postpone investments which drive up rates.
    - Airline practices provide a good analogy for demand response.
        - We've all been on flights that the airline has overbooked.
        - Instead of having another plane immediately available to transport the few passengers who won't fit on the original flight, it is less expensive for the airline to pay the passengers to take a later flight. I have often thought about getting that additional ticket to fly to Florida at another time.

        - Demand response takes the same approach. Paying customers not to consume electricity at the peak can be less expensive than building another power plant.
        - Everyone is better off, as long as customers can reduce their demand without jeopardizing their comfort or, in the case of businesses, their operations.
            - Customers get lower energy costs.
            - Utilities can avoid some emissions and put off some expenditures. This is particularly important as the cost of power plants keeps rising, by 27% for last year alone.
            - In addition, economic development gets a boost from keeping spending in the region.

    - Demand response, or DR, has been around a long time in the form of interruptible rates, whereby customers pay less for power as long as they are willing to interrupt their use at the utility's request.
    - What has sparked DR's resurgence is the application of more sophisticated technology.
        - Now companies, including several PLMA members, can work with residential and business customers to find ways to reduce their use of electricity on peak.
        - By using sophisticated thermostats in homes and web-based communications in businesses, these companies can provide a signal to customers as to when to reduce that usage. They can also monitor the results for the utility.
    - As a result, demand response has become a very reliable resource that utilities can count on during times of peak demand. A good example for TVA would be during last summer's heat wave, when TVA hit a number of all-time system peaks.

- I will now turn to offering some input to TVA's long term plan to make demand response happen in the Valley Region. As you design that plan, I urge you to consider the following:
    - **First,** to emphasize the obvious, <u>design a demand response program by considering system needs and then customers' abilities</u> to help you address those needs.
    - **Second,** <u>keep your first program simple and straightforward for customers</u> to participate in. Experience in other markets has shown that once customers gain experience with demand response, it becomes easier for them to participate in more elaborate programs.
    - **Third,** <u>set rigorous standards</u> in terms of program performance, measurement and verification. These standards will ensure that DR is a reliable, valuable resource.

- **Fourth,** set aggressive goals in terms of program size. Larger programs are more reliable and small programs will not make an adequate dent into TVA's peak demand.
- **Fifth,** take advantage of the capabilities of demand response aggregators. DR programs have grown dramatically in other markets, and aggregators whose sole focus is DR have developed the ability to make programs easy and risk-free for customers and utilities alike. Aggregators belonging to PLMA now have about 9,000 MW of demand response under management, as opposed to a few hundred MWs five years ago.
- **And finally,** tie demand response into energy efficiency. Once it has become easy for customers to manage their electricity usage in a DR program, they look for more opportunities to reduce their energy costs. In addition, customers can use the payments from DR programs to make further, cost-effective savings happen.

- To wrap up, thank you again for the opportunity to tell you more than you ever wanted to know about demand response.
  - The Valley Region has a tremendous opportunity to create significant benefits from energy efficiency and DR.
  - We at the PLMA are happy to help you in any way we can as you develop and execute your strategy.
  - We know that not too long from now the Valley Region will serve as a leading example of how best to make energy efficiency and peak load reduction work.